In the Claims:

1-40. **(canceled)**

41. **(currently amended)** A composition comprising a glycosylated interferon-beta-1a comprising the amino acid sequence set forth in any one of SEQ ID NOs: 27-[[40]]56 coupled to a non-naturally-occurring polymer at an N-terminal end of said glycosylated interferon-beta-1a, said polymer comprising a polyalkylene glycol moiety.

42. **(previously presented)** The composition of claim 41, wherein the polyalkylene moiety is coupled to the interferon-beta by way of a group selected from an aldehyde group, a maleimide group, a vinylsulfone group, a haloacetate group, plurality of histidine residues, a hydrazine group and an aminothiol group.

43. **(currently amended)** The composition of claim 41, wherein the interferon-beta-1a of any one of SEQ ID NOs: 27-[[40]]56 is an interferon-beta-1a fusion protein.

44. **(previously presented)** The composition of claim 43, wherein the interferon-beta-1a fusion protein comprises a portion of an immunoglobulin molecule.

45. **(currently amended)** A physiologically active interferon-beta composition comprising a physiologically active interferon-beta-1a comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 27-[[40]]56, coupled to a polymer comprising a polyalkylene glycol moiety, wherein the interferon -beta-1a is coupled to the polymer at a site on the interferon-beta-1a that is an N- terminal end, wherein the physiologically active interferon -beta 1a and the polyalkylene glycol moiety are arranged such that the physiologically active interferon-beta-1a in the physiologically active interferon -beta composition has an activity at least 2-fold greater relative to physiologically active interferon-beta-1b, when measured by an antiviral assay.

46. **(previously presented)** The composition of claim 45, wherein the interferon-beta-1a is coupled to the polymer at a site by way of a glycan moiety of the interferon-beta-1a.

47. **(previously presented)** The composition of claim 45, wherein the interferon-beta-1a is an interferon-beta-1a fusion protein.

48. **(previously presented)** The composition of claim 47, wherein the interferon-beta-1a fusion protein comprises a portion of an immunoglobulin molecule.

49. **(currently amended)** A physiologically active interferon-beta composition comprising a physiologically active glycosylated interferon-beta-1a comprising an amino acid sequence

selected from the group consisting of SEQ ID NO: 27-[[40]]56, N-terminally coupled to a polymer comprising a polyalkylene glycol moiety, wherein the physiologically active interferon-beta-1a and the polyalkylene glycol moiety are arranged such that the physiologically active interferon-beta 1a in the physiologically active interferon-beta composition has equal activity relative to physiologically active interferon-beta lacking said moiety, when measured by an antiviral assay.

50. (**previously presented**) The composition of claim 49, wherein the interferon-beta is coupled to the polymer at a site by way of a glycan moiety on the interferon-beta.

51. (**previously presented**) The composition of claim 49, wherein the interferon-beta-1a is an interferon beta fusion protein.

52. (**previously presented**) The composition of claim 51, wherein the interferon beta fusion protein comprises a portion of an immunoglobulin molecule.

53. (**currently amended**) A stable, aqueously soluble, conjugated interferon-beta-1a complex comprising a interferon-beta-1a comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 27-[[40]]56, N-terminally coupled to a polyethylene glycol moiety, wherein the interferon-beta-1a is coupled to the polyethylene glycol moiety by a labile bond, wherein the labile bond is cleavable by biochemical hydrolysis and/or protcolysis.

54. (**previously presented**) An interferon-beta composition according to claims 41, wherein the polymer has a molecular weight of from about 5 to 40 kilodaltons.

55. (**previously presented**) An interferon-beta composition according to claims 49, wherein the polymer has a molecular weight of from about 5 to 40 kilodaltons.

56. (**previously presented**) A interferon-beta composition according to claims 53, wherein the polymer has a molecular weight of from about 5 to 40 kilodaltons.

57. (**previously presented**) A pharmaceutical composition comprising the interferon-beta composition of claim 54.

58. (**currently amended**) A protein comprising the amino acid sequence set forth in any one of SEQ ID NOs: 25-[[40]]56 coupled to a non-naturally-occurring polymer at the C-terminal end of said protein, said polymer comprising a polyalkylene glycol moiety.

59. (**currently amended**) A protein comprising the amino acid sequence set forth in any one of SEQ ID NOs: 25-[[40]]56 coupled to a non-naturally-occurring polymer, said polymer comprising a

polyalkylene glycol moiety, and said polymer is attached to an amino, carboxylic, hydroxyl, guanidyl, or glycan moiety of said protein.

60. **(currently amended)** A protein comprising the amino acid sequence set forth in any one of SEQ ID NOs: 25-[[40]]56 coupled to a non-naturally-occurring polymer at the N-terminal end of said protein, said polymer comprising a polyalkylene glycol moiety.

61. **(currently amended)** A method of treating multiple sclerosis in a subject comprising administering to a subject in need thereof a therapeutically effect amount of a protein comprising the amino acid sequence set forth in any one of SEQ ID NOs: 25-[[40]]56 coupled to a non-naturally-occurring polymer, said polymer comprising a polyalkylene glycol moiety.

62. **(currently amended)** A method of preparing the protein of claim 60, comprising reacting a protein with a non-naturally-occurring polymer under reductive alkylation conditions, said protein comprising the amino acid sequence set forth in any one of SEQ ID NOs: 25-[[40]]56, and said polymer comprising a polyalkylene glycol moiety and a terminal aldehyde moiety.